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What to do when you can't randomize?



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Latin American Public Opinion Project

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Proyecto de Opinión Pública de América Latina

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What to do when you can't randomize?

Some practical advice based on the experience of
the Latin American Public Opinion Project (LAPOP)

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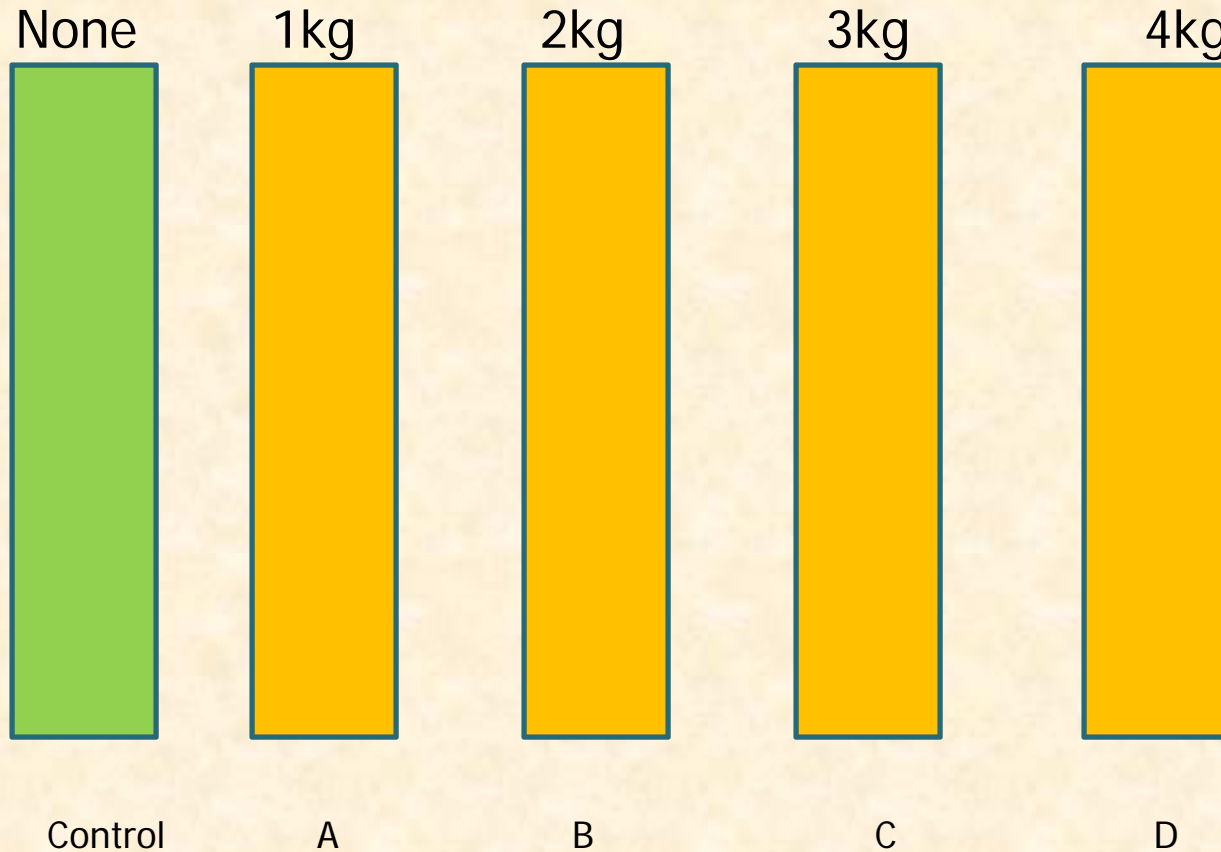


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The Classic Experimental Design

Testing the impact of varying amounts of fertilizer on corn yields



Main challenges in applying the classic experimental design to DG programs:

- ❖ The “rows of corn” (i.e., villages, municipalities, ministries, schools, cooperatives) are NOT identical prior the initiation of the project
 - ✓ They differ in terms of education, income, urbanization, etc.
 - ✓ Unless controlled for, those could mislead diagnosis of (a) causes of problem to be solved, and/or (b) impact of program on problem
- ❖ Reluctance to justify expenditure of resources on collecting data where USAID is not carrying out programs

Solution: Difference-in-Difference Design

- Highlights the importance of collecting national-level data, which are often also already being collected, so there is no added cost
- Determine differences in starting levels with a baseline survey of the selected units
- Compare baseline surveys of treatment areas/institutions (i.e., experimental areas) to national baseline data
- Track changes in both treatment and control groups over the life of the project (e.g., mid-term and end of project)

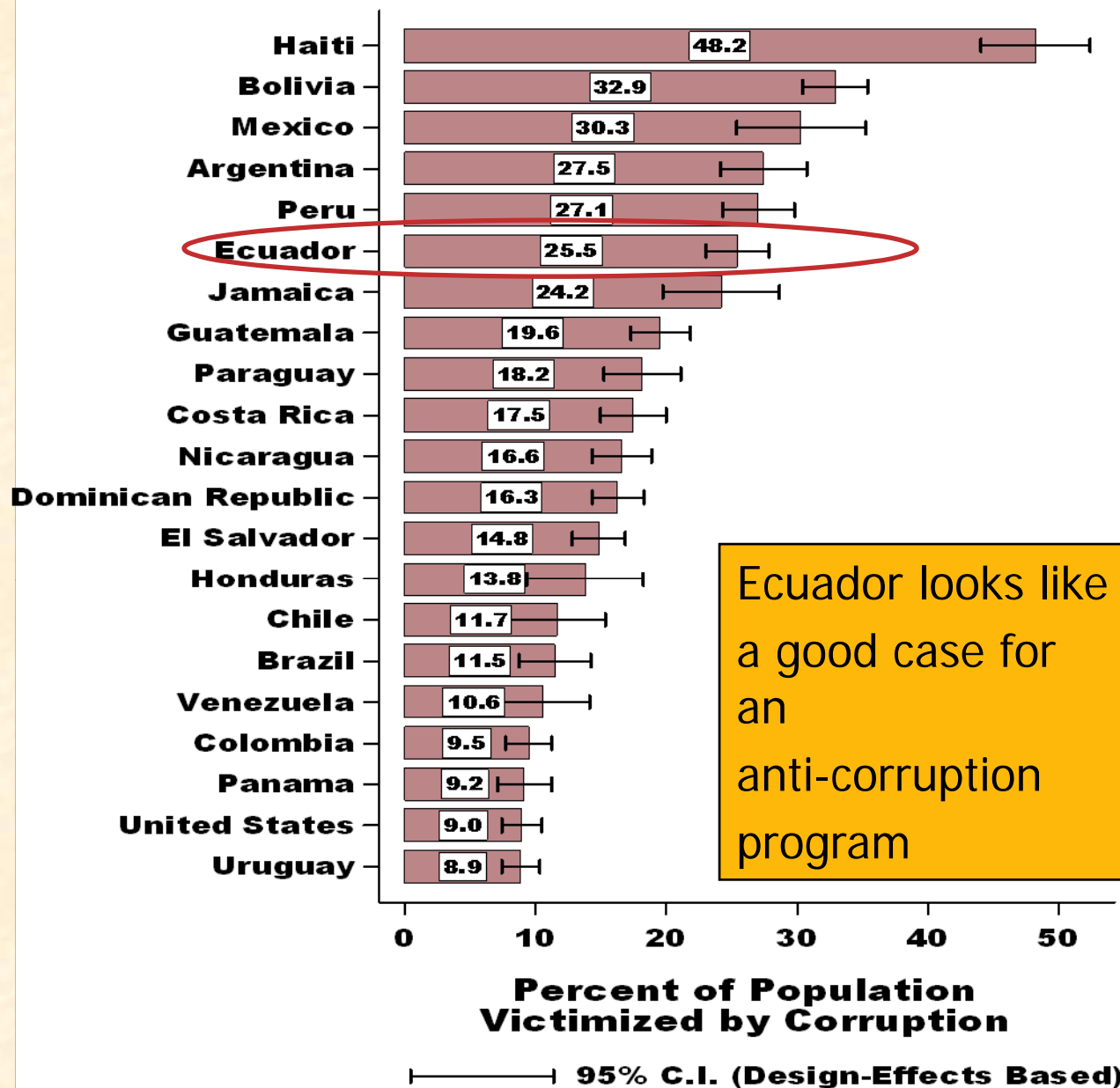
Step-by-step Guide to Impact Determination

- I. Do you have a problem?
 - a) Does your country exhibit scores at the national level that suggest your country does worse than others in your region?
- II. If it does have a problem, are the regions/institutions you are choosing actually the ones that are problematical?
- III. Do those regions/institutions achieve a *significant* improvement over time?

Sample size must be large enough to detect proposed target changes

Sample Size	Approximate Confidence Interval
100	$\pm 10\%$
300	$\pm 5.8\%$
500	$\pm 4.5\%$
800	$\pm 3.5\%$

- Assumes simple random sampling. Stratification will reduce this confidence interval while clustering will increase it.
- If your target change is smaller than the confidence interval, you have to either increase your sample size or increase your target change

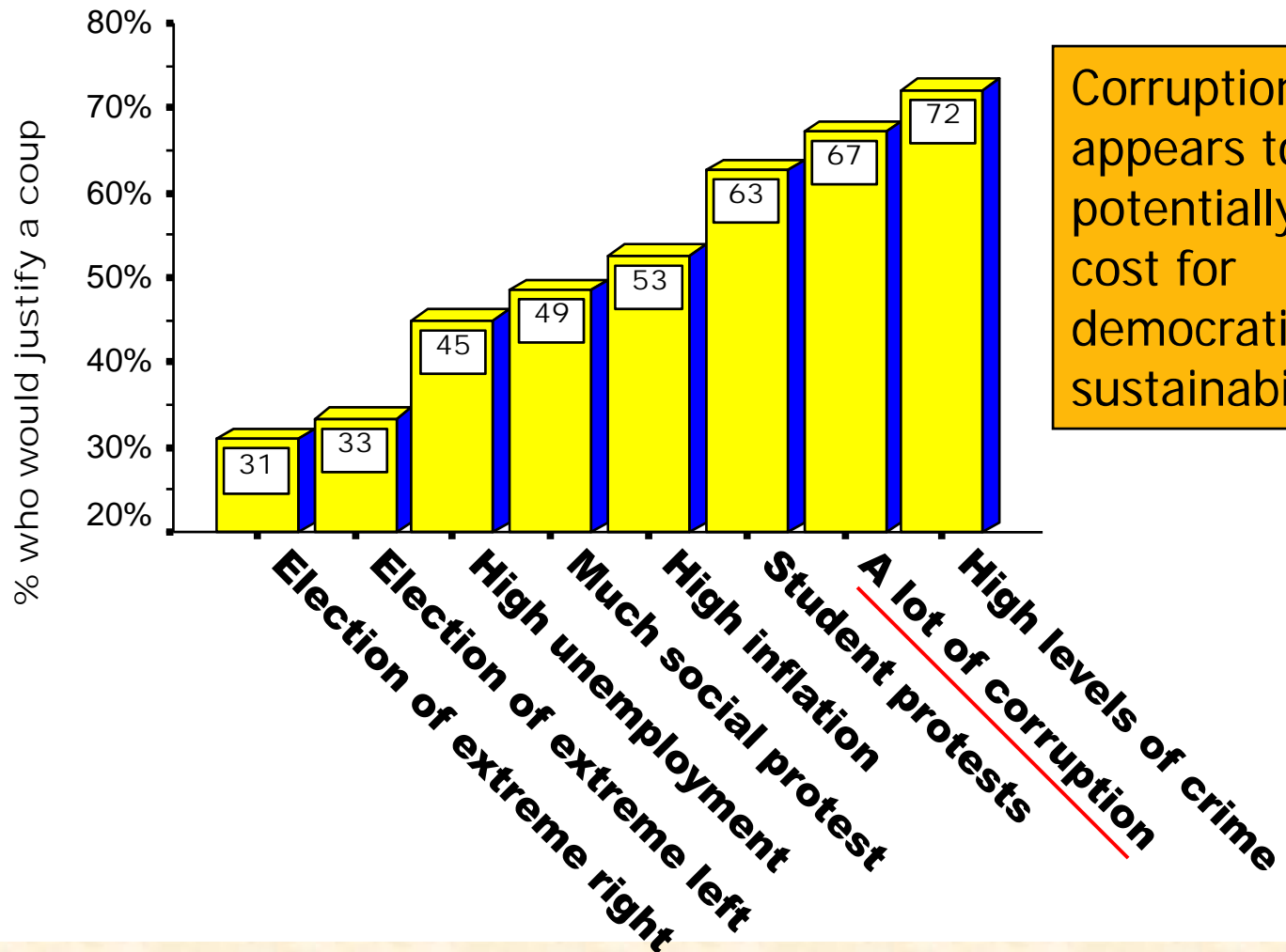


Source: AmericasBarometer by LAPOP

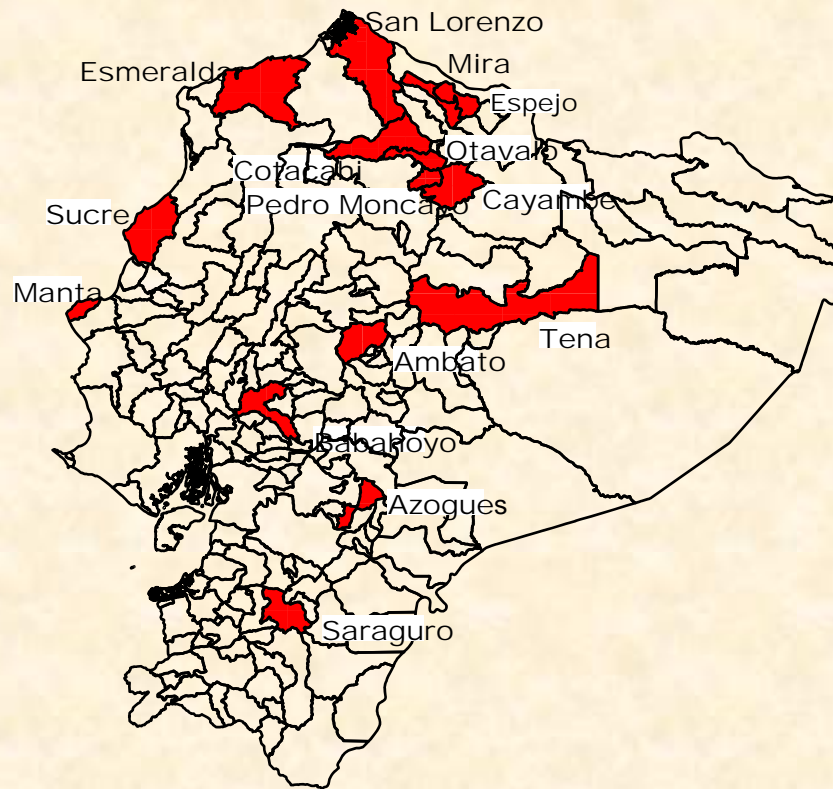
**Comparative
corruption
victimization
levels:
The
Americas,
2008**

Conditions that would justify a coup:

Ecuador

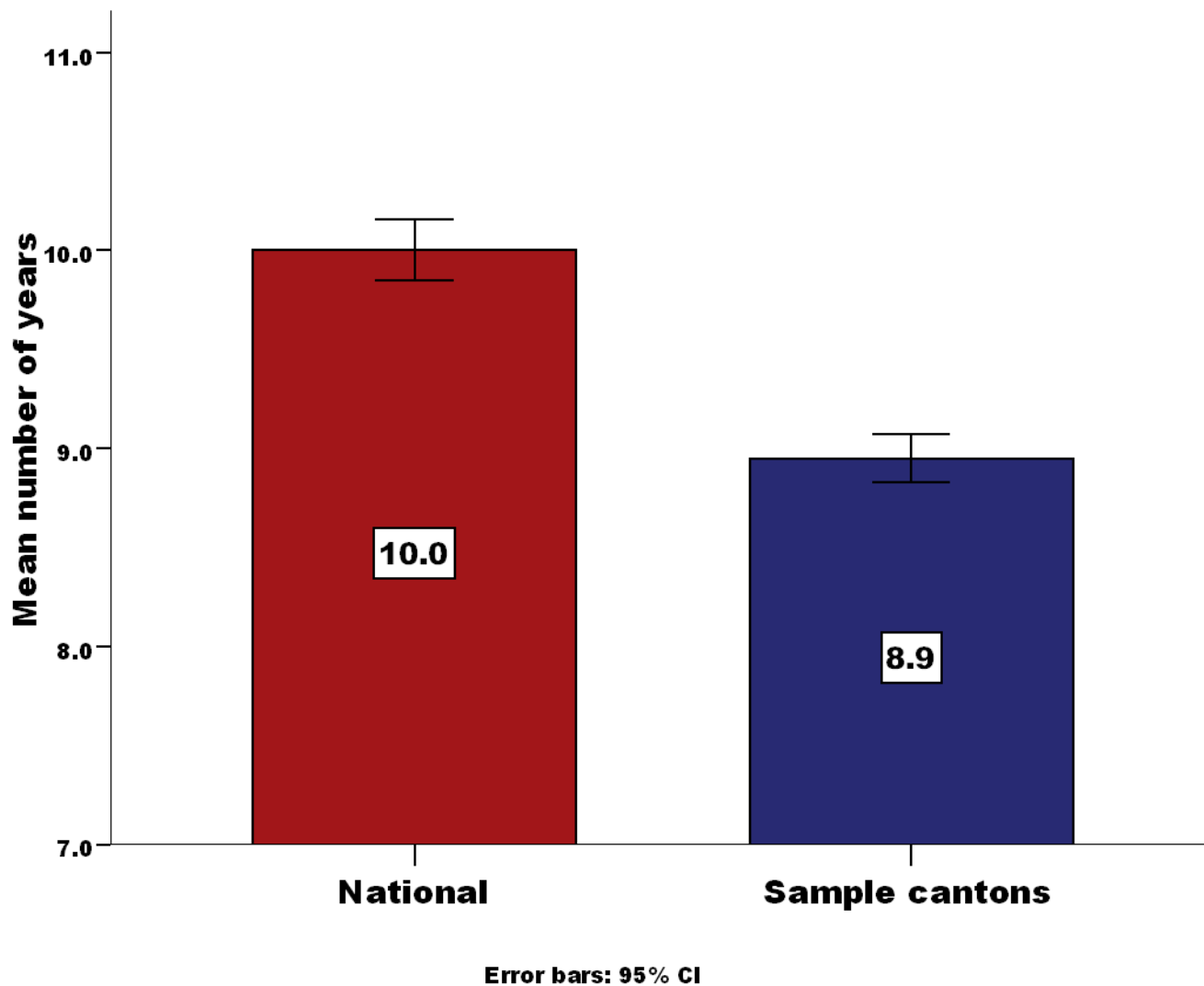


Municipal Development in Ecuador: Baseline Survey



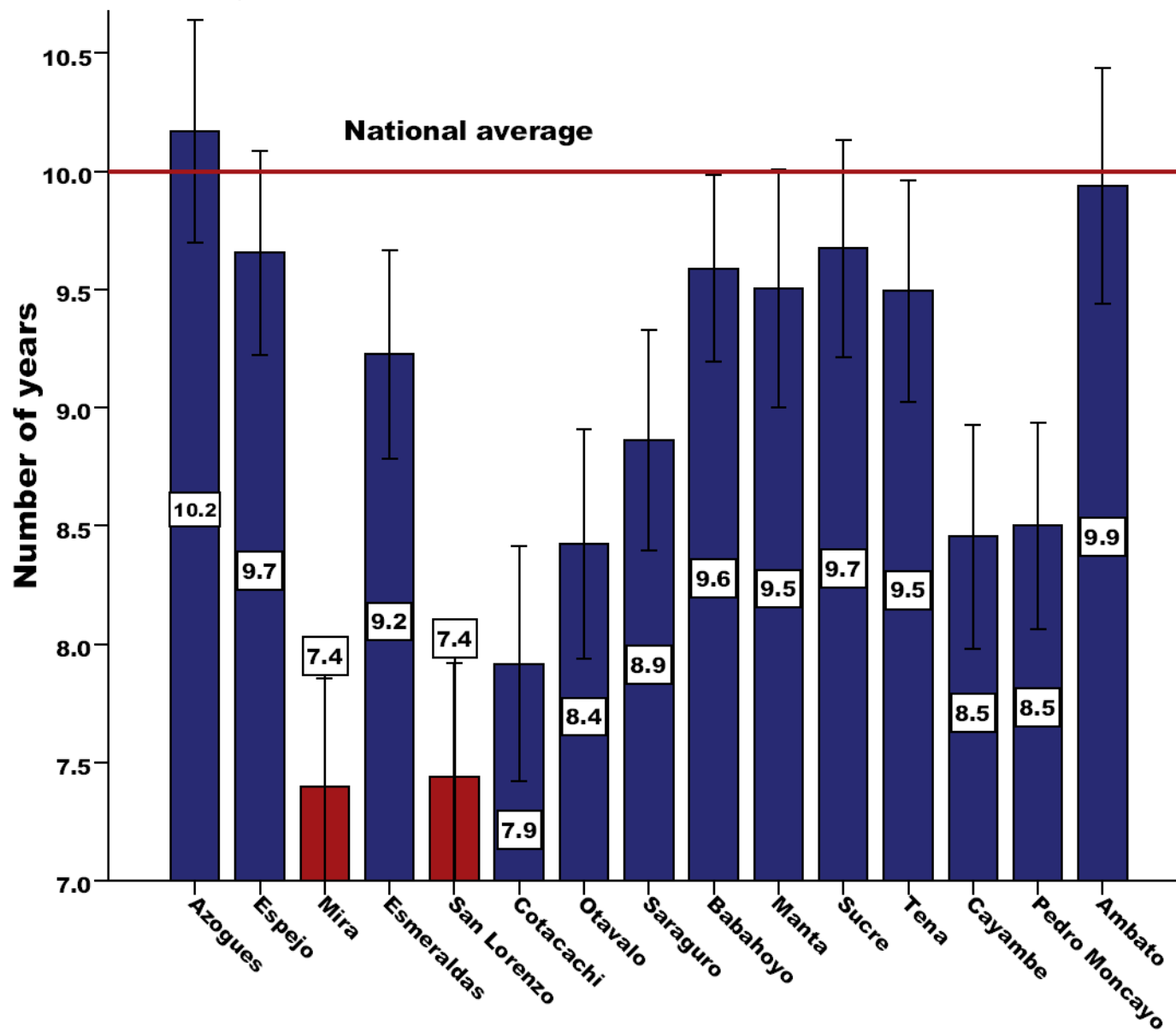
Potential to
capitalize on a
municipal
development
study by
applying an
anti-corruption
strategy
focused on
these cantons

Number of years of education, national vs. sample cantons



But first:
determine if
selected
municipalities
differ in basic
characteristics
from the
nation as a
whole so that
these can be
controlled for

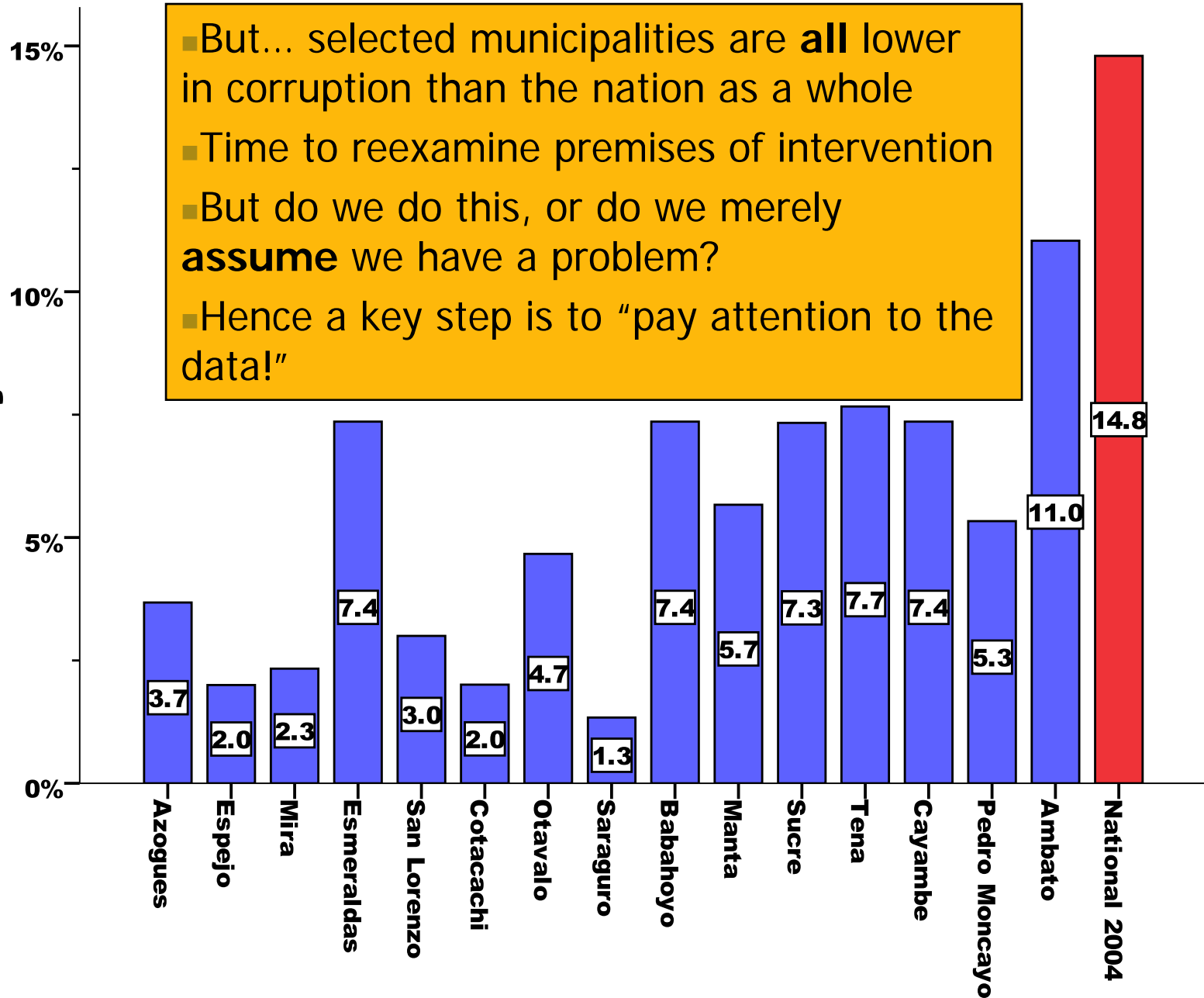
Mean years of education of selected cantons



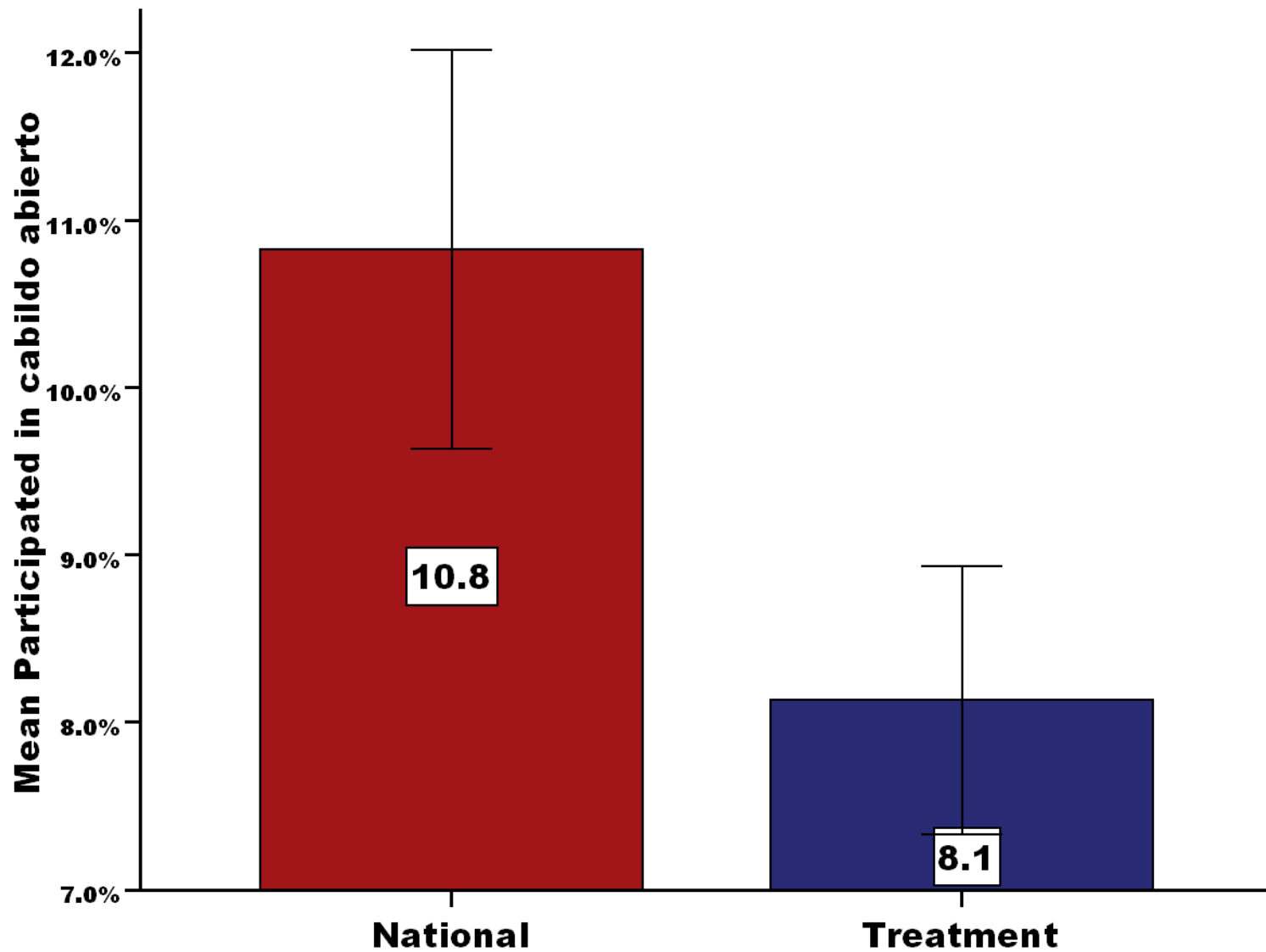
Error bars: 95% CI

Note that some cantons deviate sharply from the national average, while others are quite close to it

Mean Has some public servant required a bribe from you during the last year?



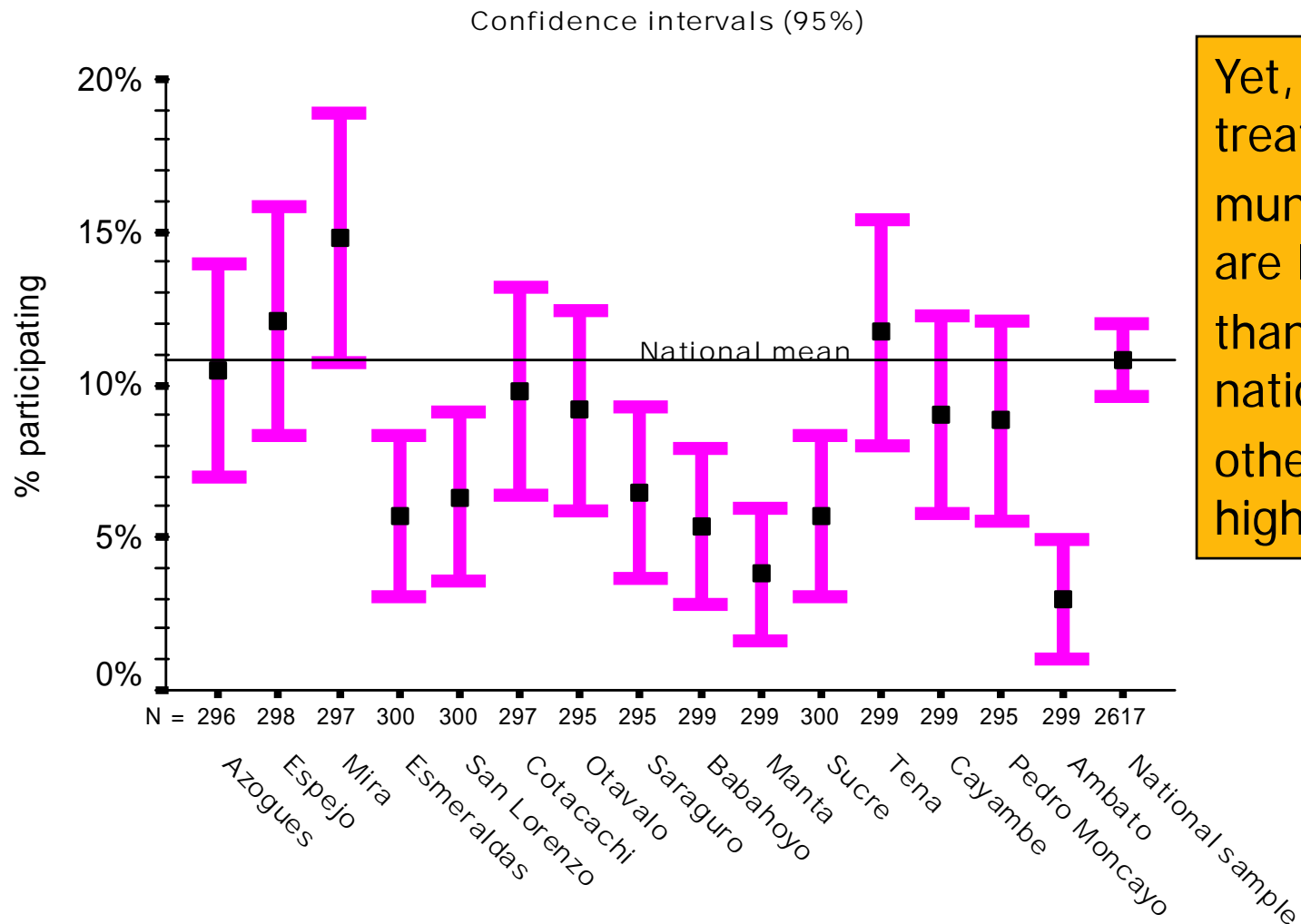
Second try... refocus on municipal participation: sample area seems low



Error bars: 95% CI

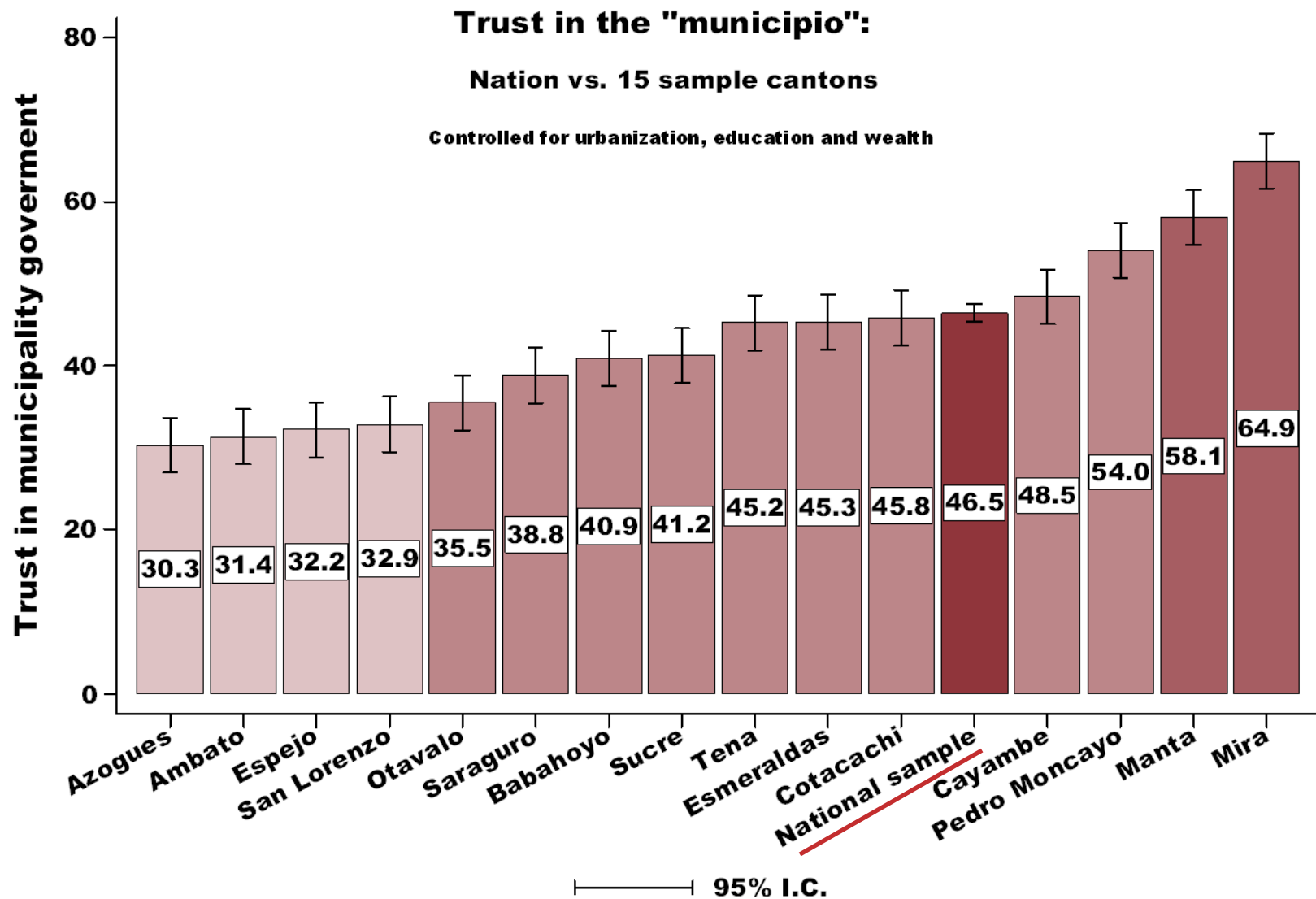
Beware of aggregation!

Participation in "cabildos abiertos" by municipio



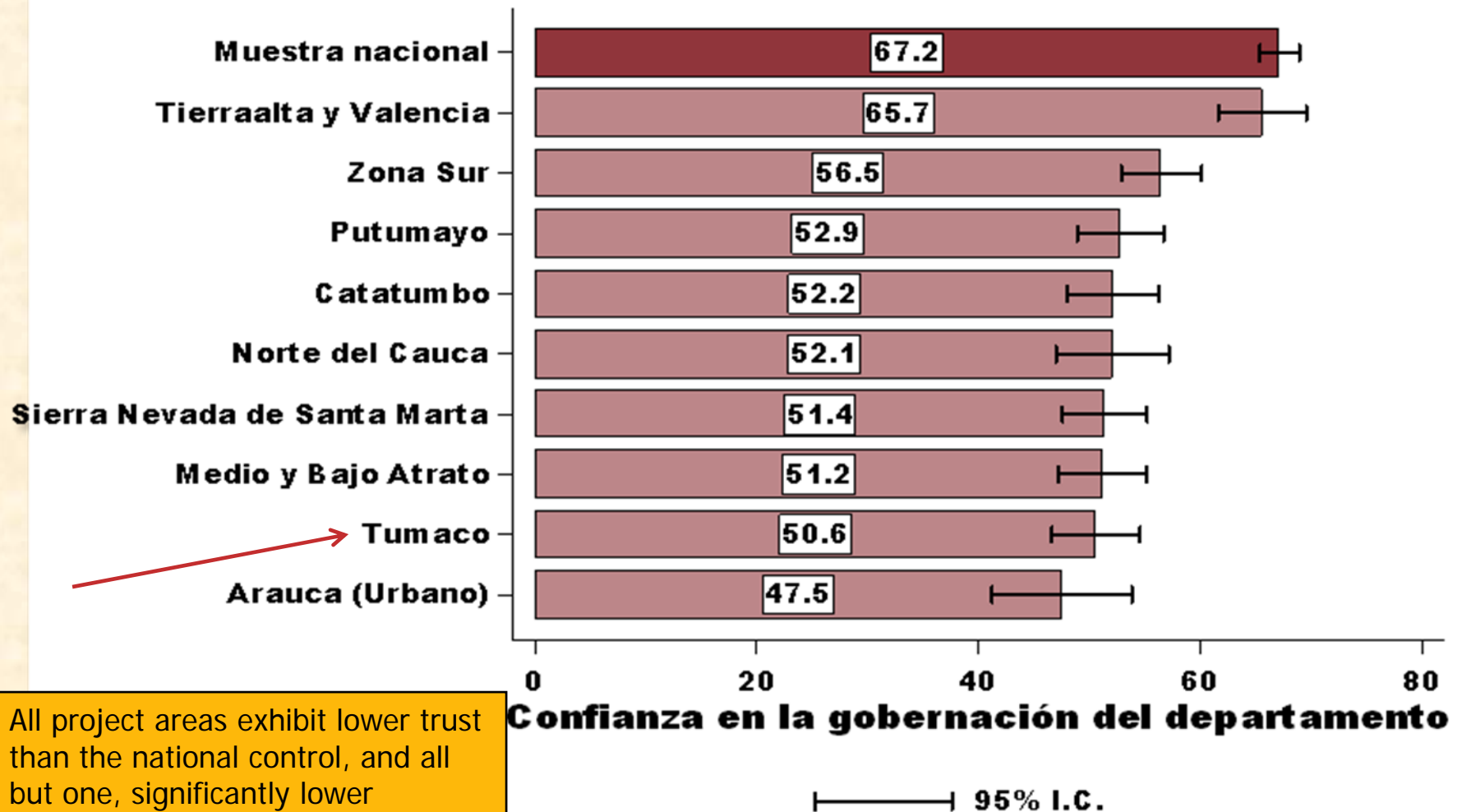
Yet, some treatment municipalities are lower than the national, while others are higher

Sig. < .001



Trust in the municipal government also varies, yet some cantons are higher than the nation as a whole

Baseline results: Trust in departmental governance, Colombia, 2007 sample



All project areas exhibit lower trust than the national control, and all but one, significantly lower

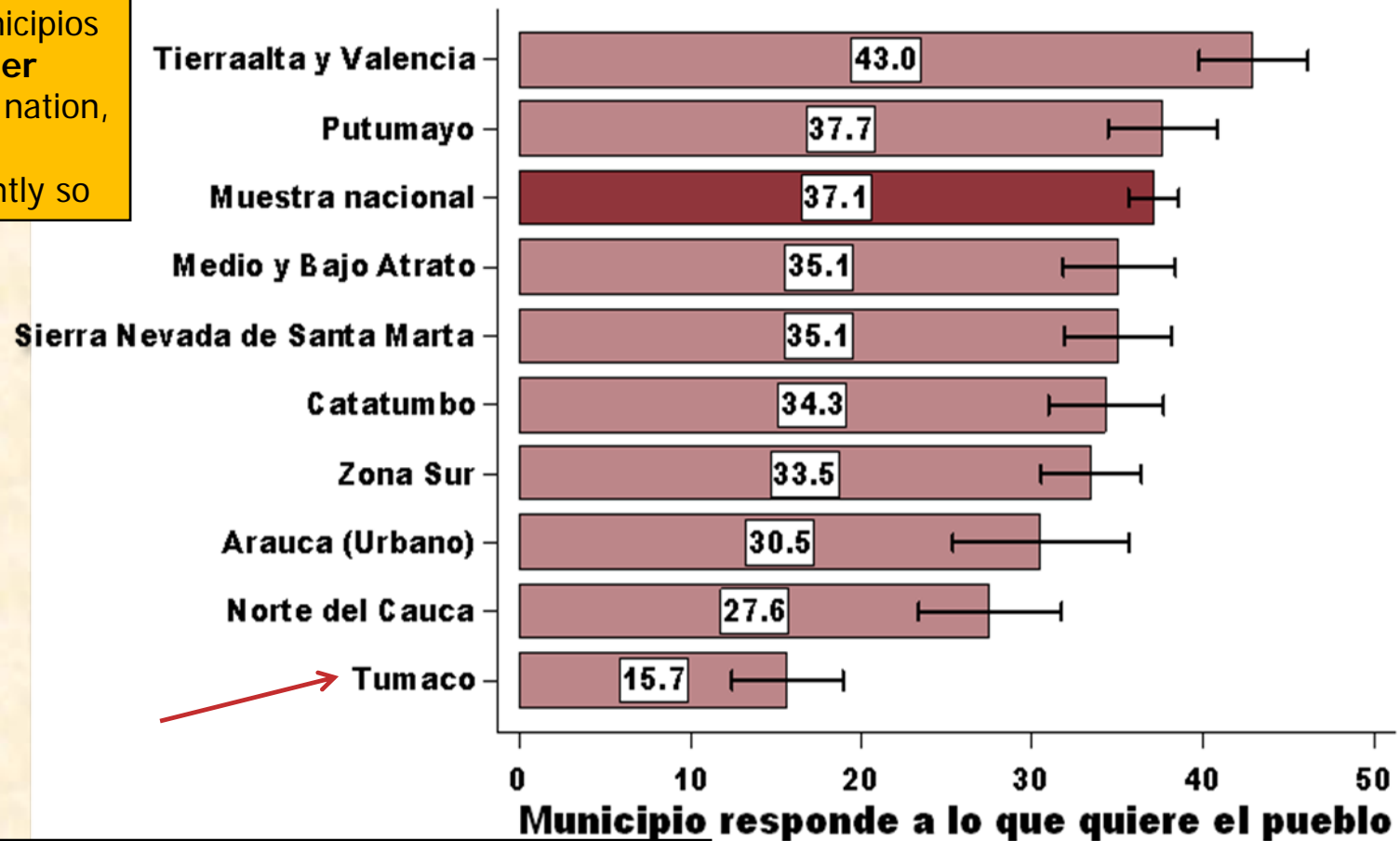
Fuente: LAPOP, 2007

(Resultados controlados por el efecto de educación, riqueza y lugar de residencia)

Baseline Results: Responsiveness of local government to citizen wishes

Colombia, 2007 sample

Two municipios are **higher** than the nation, one significantly so



Note that Tumaco baseline is low on trust and responsiveness. Project team needs to understand why and perhaps increase effort there.

95% I.C.

Fuente: LAPOP, 2007

(Resultados controlados por el efecto de educación, riqueza y lugar de residencia)

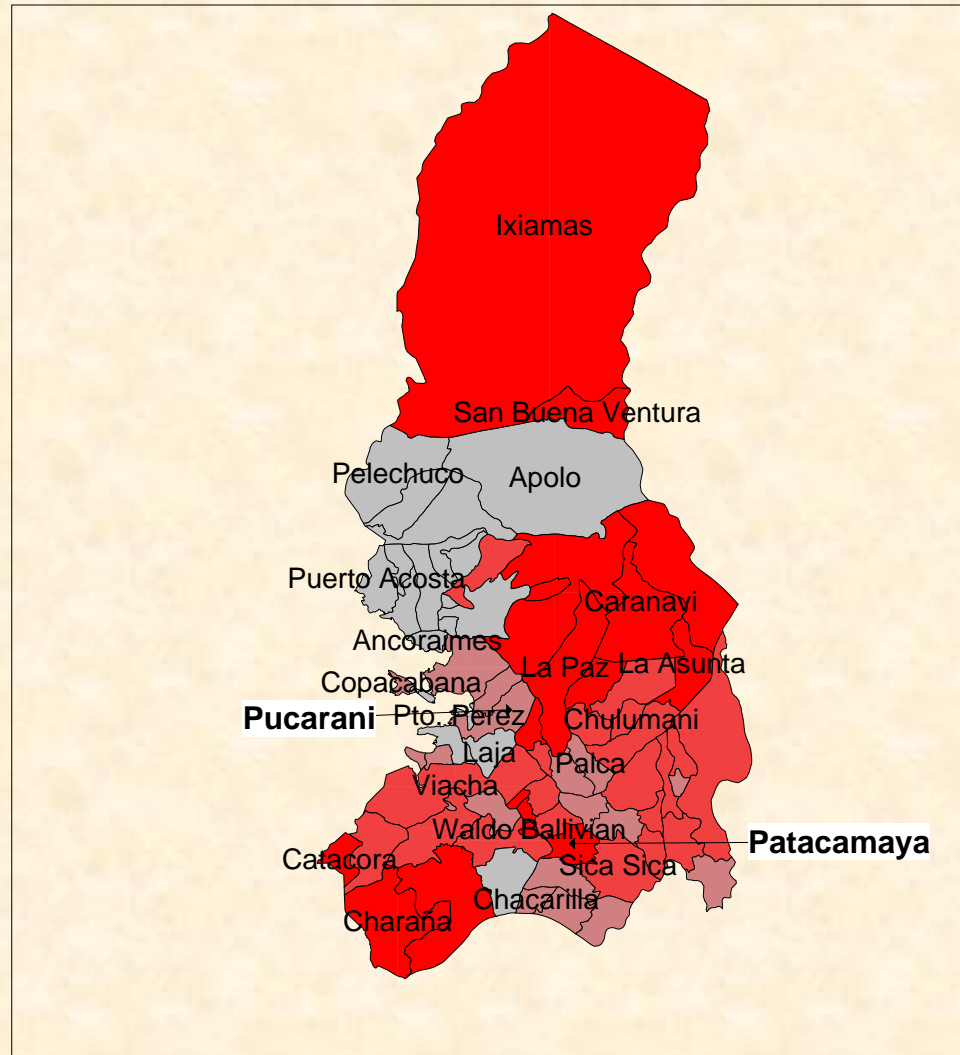
The Importance of disaggregation of findings

Cautionary
tale:
Sex Matters!
(but you
already knew
that)



Department of La Paz, Bolivia:

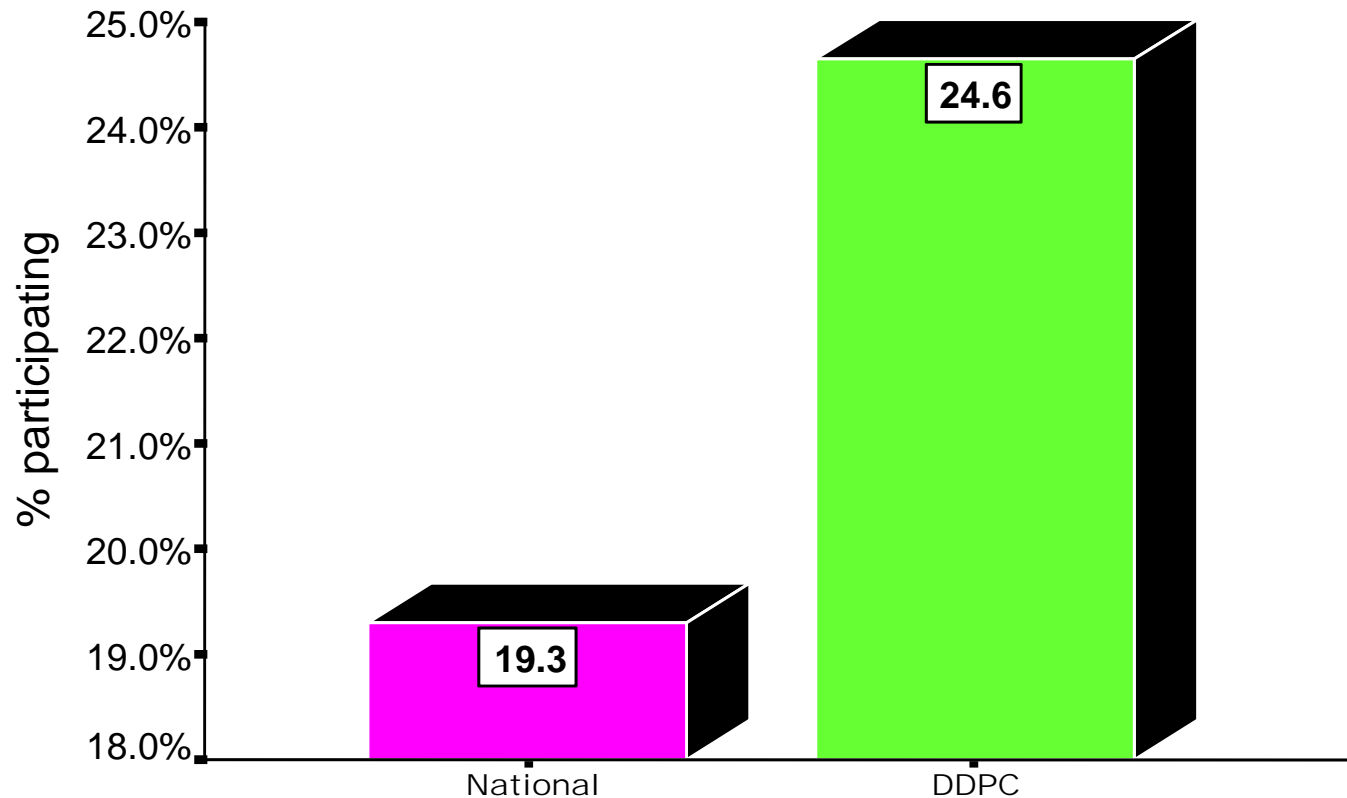
Municipal Development Projects



At end of project, treatment areas are higher than nation

Bolivia, Nation vs. DDPC: Participation in municipal meeting

controlled for urbanization, income and education

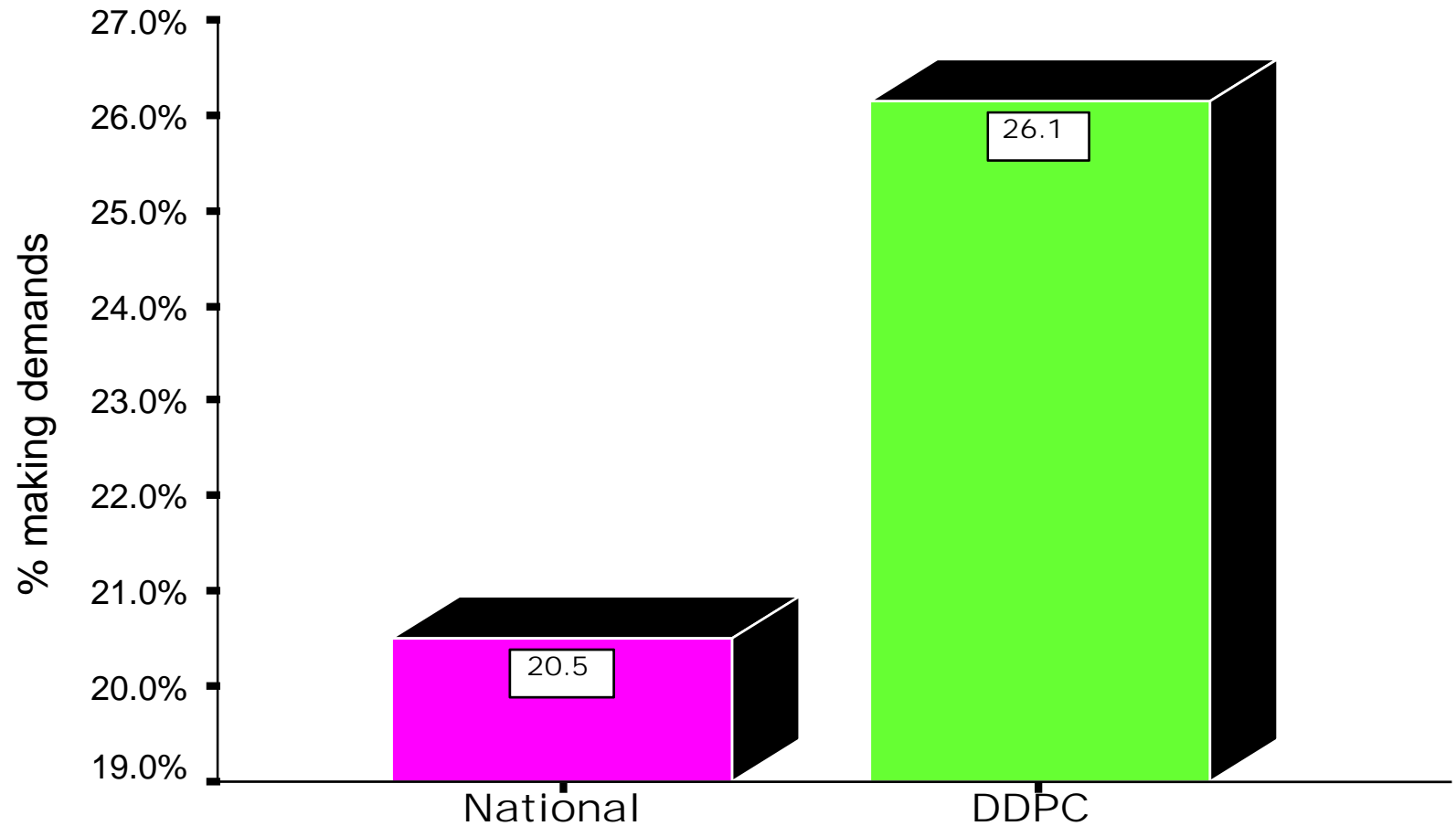


National vs. DDPC sample

Sig. = .005

Bolivia: Nation vs. DDPC, Demand-making on local government

controlled for urbanization, income and education

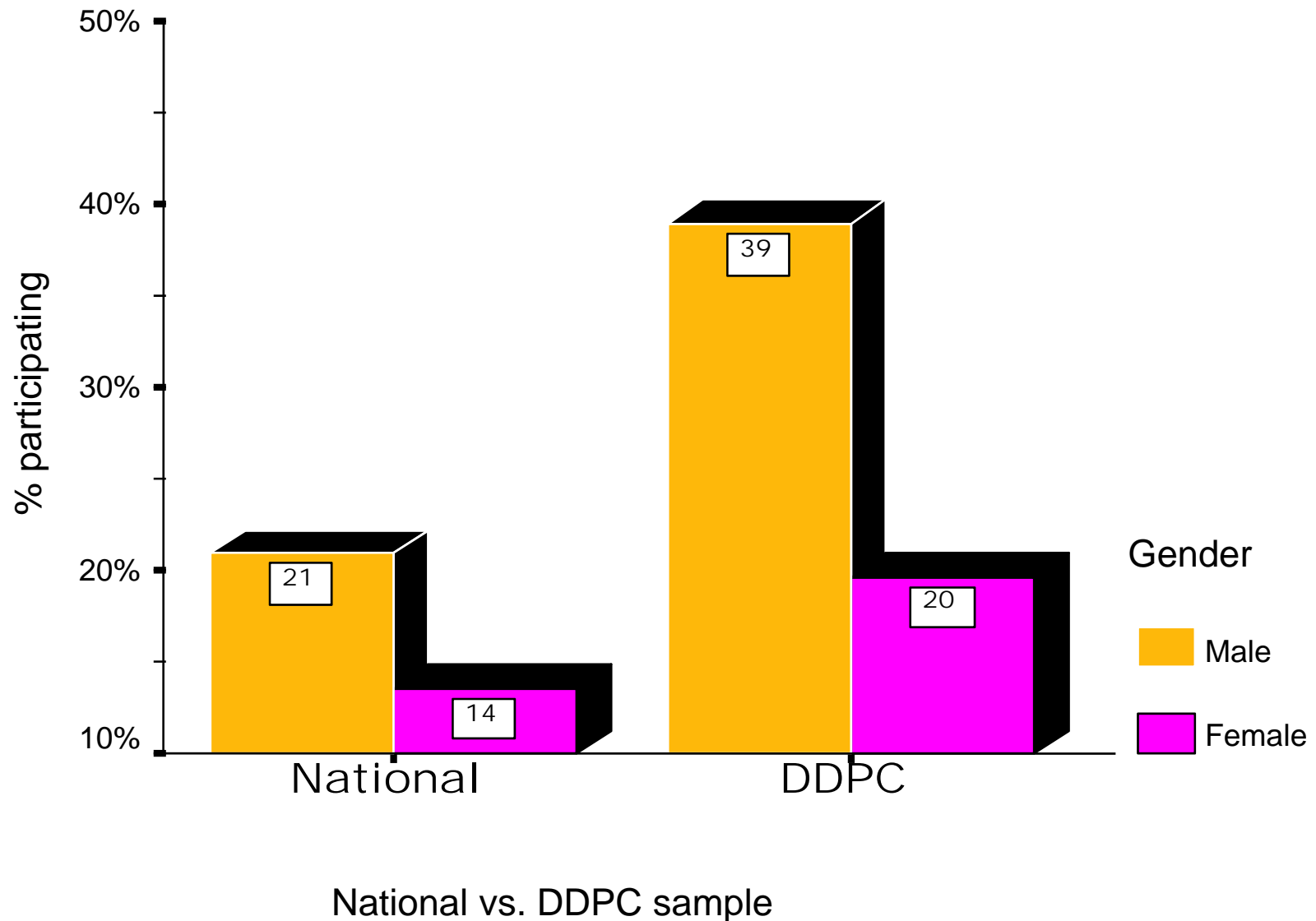


National vs. DDPC sample

Sig. = .004

But.... don't ignore sex!

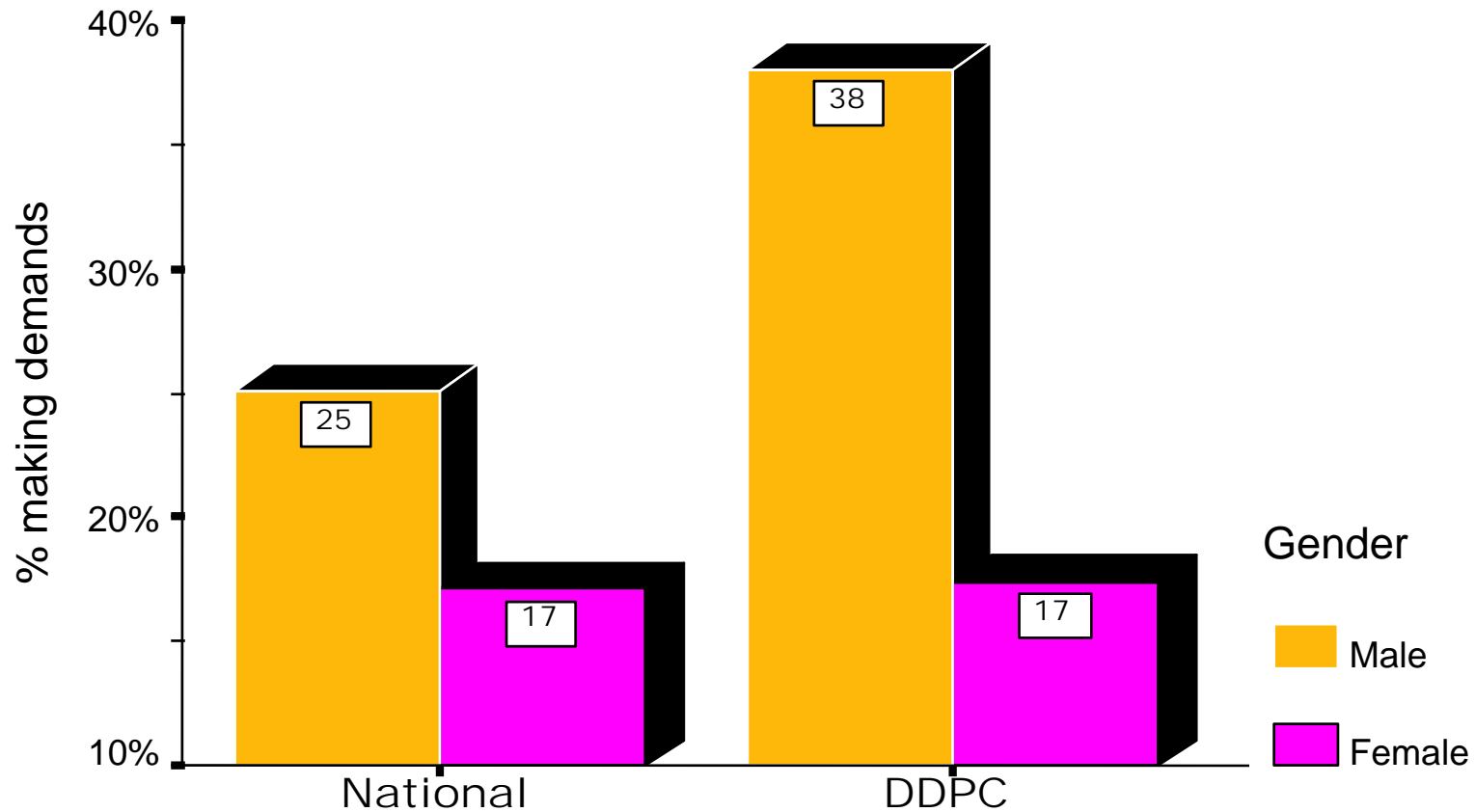
Bolivia, National vs. DDPC: Participation in municipal meeting by gender



Sig. < .001 (uncontrolled for differences between national and DDPC)

Bolivia, National vs. DDPC: Demand-making on municipal government

by gender



Entire impact of program was on males

National vs. DDPC sample

Sig. < .001

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